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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,714	12/21/2000	Andrew T. Hunt		4539

7590 10/14/2004  
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EXAMINER

MEEKS, TIMOTHY HOWARD

ART UNIT PAPER NUMBER

1762

DATE MAILED: 10/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/748,714

Applicant(s)

HUNT ET AL.

Examiner

Timothy H. Meeks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 and 87-98 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 90-98 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-19, 23-26, 28-33 and 87-89 is/are rejected.
- 7) ☒ Claim(s) 6, 20-22 and 27 is/are objected to.
- 8) ☒ Claim(s) 1-33 and 87-98 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of claims 1-33 and 87-89 in the reply filed on 8/23/04 is acknowledged. The traversal is on the ground(s) that the process cannot be practiced using a materially different apparatus and the apparatus cannot be used to practice a materially different method. This is not found persuasive because although the apparatus claim defines the apparatus by means plus function language, that language must be interpreted in terms of the structure defined to perform the claimed function or equivalents thereof. The structure so disclosed could clearly be used to form a coating directly from a material as opposed to a material precursor, as proposed in the restriction requirement. As the apparatus could be used in a materially different process, and is separately classified from the method, there is an undue burden to examine both inventions.

The requirement is still deemed proper and is therefore made FINAL.

Claims 90-98 are withdrawn from further consideration as being directed to a non-elected invention.

Applicants election of the species of claims 2-4 without traverse in the reply of 8/23/04 is acknowledged. Claim 5 is withdrawn from further consideration as being directed to a non-elected species.

### ***Information Disclosure Statement***

The references cited in the search report for the associated PCT application have been considered.

***Specification***

The attempt to incorporate subject matter into this application by reference to the U.S. patent applications listed on page 5 is improper because it is not stated said applications are owned by the assignee/inventor of the present application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 11-19, 23-26, and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Wadley et al. (5,534,314).

The claimed process is explicitly disclosed at the abstract, Figure 3, col. 5, line 50 to col. 6, line 60, col. 10, line 5 to col. 11, line 15, col. 11, lines 40-60 and col. 12, line 1-20 where it is disclosed to impinge a solid material with an electron beam to vaporize the material into a plume spreading above the solid source, entraining the vaporized material in a carrier gas stream which may contain additional reactants for reacting with the material or making alloys, the carrier gas stream redirecting the precursor materials to a substrate to form a coating thereon. As to claims 11-14, based on the substrate temperatures defined at col. 11, lines 10-20 and the temperatures for melting the source

described at col. 11, lines 40-45, the gases would be cooled to values in the claimed range based on the point of electron beam impingement relative to the substrate.

Claims 87-89 are rejected under 35 U.S.C. 102(e) as being anticipated by Powell et al. (6,287,643).

The process as claimed is explicitly disclosed at figure 2, col. 4, lines 10-20, col. 6, lines 53-65, and col. 7, line 58 to col. 8, line 12, the area 34 being the localized environment wherein the precursor material is activated and the baffle 46 being the interior wall that redirects the gases to a second path.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 3, 4, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wadley et al.

Wadley does not explicitly disclose the claimed coating thicknesses. However, because Wadley discloses at col. 5, lines 65-66 that the process is applicable to production of both thin and thick films, the process is clearly capable of providing a coating thickness as desired for a particular application and it would have been obvious to have produced coatings in the claimed range based upon a desired application to render the coating useful for said application, especially absent evidence showing a criticality of producing coating thicknesses in the claimed range.

Wadley discloses dilution of the gases formed by evaporating the material source with the carrier/reactive gases but is silent as to the degree of dilution thereof. However, such dilution clearly affects how much evaporated material is presented to the substrate and affects factors such as nozzle clogging (see col. 6 of Wadley) and as such the degree of dilution is a result effective parameter. To adjust this result effective parameter to values in the claimed range through routine experimentation for optimization would have been obvious, absent evidence showing a criticality of using the claimed dilution amounts.

***Allowable Subject Matter***

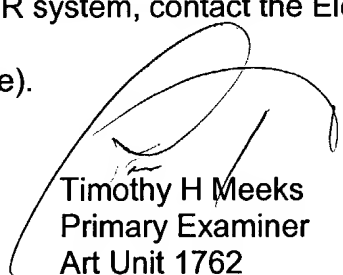
Claims 6, 20-22, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H. Meeks whose telephone number is (571) 272-1423. The examiner can normally be reached on Mon 6-6, T-Th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy H Meeks  
Primary Examiner  
Art Unit 1762